Should We Taper or not: A Short Glance to a Dilemma

Azaltmak ya da Azaltmamak: Bir İkileme Kısa Bir Bakış

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ABSTRACT

The treatment of the acute inflammatory manifestations of acute rheumatic fever (ARF) refers to the utilization of anti-inflammatory agents. Based upon clinical experience, acetylsalicylic acid (ASA) has been traditionally accepted as the first-line therapy for arthritis. However, various scientific sources indicate different schedules for the administration of ASA treatment and such differences may cause misunderstandings.
This student study aims to investigate the approaches for the ASA treatment that have been adopted by the pediatric cardiologists in the treatment of ARF arthritis by means of a pre-designed questionnaire.

Key Words: Acetyl salicylic acid, acute rheumatic fever

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ÖZET

Akut romatizmal ateşin (ARF) akut enflamatuar belirtilerinin tedavisi, anti-inflamatuar ajanların kullanımını gerektirir. Klinik tecrübelere dayanarak, asetilsalisilik asit (ASA) geleneksel olarak artrit için birinci basamak tedavisi olarak kabul edilmiştir. Bununla birlikte, çeşitli bilimsel kaynaklar, ASA tedavisi için farklı uygulamalar önermektedirler ve bu farklılıklar, yanlış anlaşılmalara neden olabilir.
Bu öğrenci çalışması, çocuk kardiyologları tarafından ARA artritinin tedavisinde önceden planlanmış bir anket yardımıyla kabul edilen ASA tedavisi yaklaşımlarını araştırmayı amaçlamaktadır.

Anahtar Sözcükler: Asetil salisik asid, akut romatizmal ateş

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INTRODUCTION

The treatment of the acute inflammatory manifestations of acute rheumatic fever (ARF) refers to the utilization of anti-inflammatory agents. Based upon clinical experience, acetylsalicylic acid (ASA) has been traditionally accepted as the first-line therapy for arthritis. However, various scientific sources indicate different schedules for the administration of ASA treatment and such differences may cause misunderstandings.

The most frequently mentioned ASA treatment protocol is cited as 50-70 mg/kg/day in 4 divided doses per oral (p.o) for 3-5 days, followed by 50 mg/kg/day in 4 divided doses p.o for 3 weeks and half that dose for another 2-4 weeks (1, 2). The dosage of ASA is gradually reduced in this manner but the criteria for dosage reduction (such as clinical status or laboratory findings) are not explicitly specified.

For instance, some studies have suggested that the ASA dose should be reduced to minimum so that a serum salicylate level of 20-30 mg/dl has been ensured after clinical symptoms have been resolved (3). Apart from these, some authors say the ASA dose should be tapered to 60-70 mg/kg/day (50 mg/kg/day in older children) after the resolution of clinical symptoms and the treatment should continue until acute phase reactants become normal (4, 5).

It is well known that ASA has exerts different effects at different doses. That is, ASA has anti-thrombotic effects at low doses (75-80 mg/day) whereas analgesic and antipyretic effects occur at medium doses (650 mg-4 g/day) and anti-inflammatory effects appear at high doses (4-8 g/ day) (6). The use of ASA at high doses is usually limited due to toxic effects.

This student study aims to investigate the approaches for the ASA treatment that have been adopted by the pediatric cardiologists in the treatment of ARF arthritis by means of a pre-designed questionnaire.

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METHOD and RESULTS

A one-question and three-option questionnaire was designed to investigate the habits of pediatric cardiologists in using ASA for the treatment of ARF arthritis (Table 1). After the questionnaire was designed by using the Google forms, the link of the form was sent to the "PediHeartNet" mailing list with a text explaining the subject matter of the research and the right for choosing one option was given to each participant.

It was observed that 24 pediatric cardiologists responded to the questionnaire. Since personal information was not collected in the questionnaire, demographic data related with the pediatric cardiologists (i.e., age, affiliation, experience) could not be achieved. The answers given to questionnaire are shown in Figure 1.

Table 1: Questionnaire released via Google Forms

Should the acetyl salicylic acid (ASA) treatment be stopped with tapering the dose step by step or not?
(A) Yes, the ASA dose is gradually tapered after the relief of the symptoms and then ASA treatment is stopped.
(B) No, tapering the dose is not required. The ASA treatment is stopped instantly without tapering the dose when the acute phase reactants become normal.
(C) Yes, the ASA dose is decreased to the 2/3 of starting dose after the relief of symptoms and then the ASA treatment is ended when the acute phase reactants become normal.

DISCUSSION

ASA is still acknowledged as the main therapeutic agent for treatment of ARF arthritis. However, both pediatricians and pediatric cardiologists have different opinions for this therapeutic agent and they have adopted different protocols for the utilization of ASA in the treatment of ARF arthritis (1-6). However, it is well described that ASA demonstrates different effects at different doses (6).

According to the findings of this study, the prevailing opinion of the pediatric cardiologists about the utilization of ASA in the treatment of AFR arthritis is the attenuation of ASA dose to minimum anti-inflammatory dose after the resolution of clinical findings and the discontinuation of ASA treatment after the normalization of acute phase reactants (62.5%).

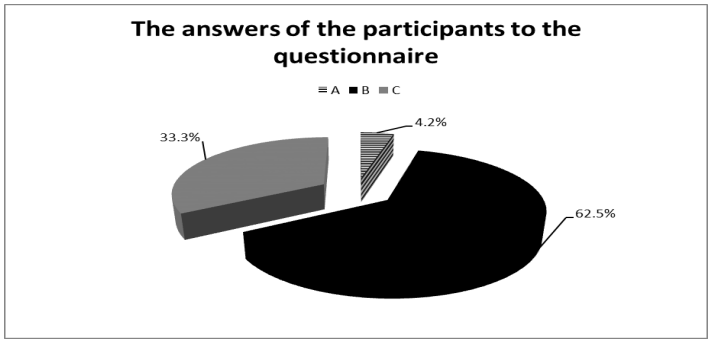

Figure 1: The answers of the participants to the questionnaire.

Interestingly, 33.3% of the participants expressed their comment that the ASA treatment should be ceased without any dose reduction after the serum concentrations of acute phase reactants returned to normal. In our opinion, this practice brings along the danger of salicylate intoxication.

Only one user (4.2%) stated that the dose of ASA should be tapered gradually before the discontinuation of ASA treatment. There can be objections for this opinion because such an approach requires the monitorization of acute phase reactants (5), regular follow up of serum salicylate levels (3) and negligence of effective minimum anti-inflammatory doses (6).

The power of the aforementioned findings has been limited by the relatively small number of the participants and lack of data about the clinical experience of these participants about ARF arthritis.

When a review of literature has been taken into account, the best recommendation for the utilization of ASA seems to the reduction of ASA dose to a minimum of 20-30 mg/dl after the resolution of clinical symptoms and the discontinuation of ASA treatment after the normalization of acute phase reactants. In case serum salicylate levels cannot be measured, it is recommended in literature that a minimum dose of 50-60 mg/kg/day should be adopted to provide pharmacologically effective serum salicylate levels. As such, the disappointment of pediatric cardiologists related with the failure of ASA treatment would be avoided.

Conflict of interest
No conflict of interest was declared by the authors.

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